REMARKS-General

1. The amended independent claim 1 incorporates all structural limitations of the original claim 1 and includes further limitations previously brought forth in the disclosure. No new matter has been included. All claims 1-16, 21-24, 35-37 and 39-44 are submitted to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

Response to Rejection of Claims 1-16, 21-24, 35-37 and 39-44 under 35USC112

2. The applicant submits that the amended claim 1 particularly points out and distinctly claims the subject matter of the instant invention, as pursuant to 35USC112.

Response to Rejection of Claims 1-16, 21-24, 35-37 and 39-44 under 35USC103

3. The Examiner rejected claims 1-16, 21-24, 35-37 and 39-44 over JP `434 in view of Lonergan and Anderson et al. Pursuant to 35 U.S.C. 103:

"(a) A patent may not be obtained thought the invention is **not identically** disclosed or described as set forth in **section 102 of this title**, if the **differences** between the subject matter sought to be patented and the prior art are such that the **subject matter as a whole would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

4. In view of 35 U.S.C. 103(a), it is apparent that to be qualified as a prior art under 35USC103(a), the prior art must be cited under 35USC102(a)~(g) but the disclosure of the prior art and the invention are not identical and there are one or more differences between the subject matter sought to be patented and the prior art. In addition, such differences between the subject matter sought to be patented **as a whole** and the prior art are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

5. In other words, the differences between the subject matter sought to be patent as a whole of the instant invention and JP `434 which is qualified as prior art of the instant invention under 35USC102(b) are obvious in view of Lonergan and Anderson et

al. at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

6. Accordingly, JP `434 merely discloses **a single duct** to produce a torch flame in a stabilizing manner, wherein a flow speed of fuel gas is injected from a fuel tank and is increased by a nozzle hole. The air is taken from a suction hole under its negative pressure and is mixed with the fuel gas at a mixing pipe, wherein the mixture is dispersed at a dispersion cylinder and its speed is decreased there and further its speed is decreased and dispersed by a distributor at the extremity end thereof. The mixture is flowed into an annular space in the combustion cylinder through the dispersion hole, flowing-out of the gas flow is made relatively large at a central part of the upper part within the combustion speed of the combustible mixture gas of proper degree and then the mixture is burned within the combustion cylinder.

7. In addition, JP `434 never mentions any size of the single duct and how to produce two or more torch flames by one single duct.

8. On the other hand, Lonergan merely describes a gas burner structure for a gas supply as a gas appliance. However, the instant invention is a torch lighter to produce multi-torch flames in a stabilizing manner. Therefore, the gas burner of Lonergan is totally irrelevant to the structure of the torch lighter of the instant invention that the gas burner structure of Lonergan cannot be used in the torch lighter.

9. Anderson et al describes a multiple coherent jet lance which has no suggestion of any technology taught accordingly can be applied in the structure of a torch lighter.

10. The Examiner alleges that the overall size and shape of the burner, to select the mixing chamber diameter of 1mm to 2.5mm, a micro nozzle pore diameter of 0.05mm to 0.12mm, a mesh filter and the duct spacing as set forth in applicant's claims, can be viewed a nothing more than a mere matter of choice in design absent the showing of any new or unexpected results there from over the prior art of record.

11. Broad conclusory statements regarding the teaching of a reference is not evidence. There has to be actual evidence that is clear and particular. *Bard v. M3*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). "Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of

material fact." See *McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1476, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993). "The Examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection." *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977).

12. The rejections in the Office Action are broad conclusory statements: The invention is obvious because they are considered "**obvious design choices**"; "unless unobvious or unexpected results are obtained from the changes", the invention is not patentable. Such broad conclusory statements are not sufficient to support the rejection.

13. Accordingly, what is claimed in the instant invention is a torch lighter having at least two nozzle ducts to form two or more spaced torches while the environment root flame stabilizing and holding the spaced torches to form a strong and stable group of the torches. Therefore, the dimensional limitations of the instant invention enforce the torch lighter to produce two or more flame torches in a stabilizing manner. Without the dimensional limitations of the mixing chamber diameter (1mm to 2.5mm), the micro nozzle pore diameter (0.05mm to 0.12mm) and the participation of the mesh filter and the duct spacing features, the torch lighter of the instant invention may produce either two or more weak flame torches or a flame torch in an unstablizing manner. In other words, the dimensional limitations of the instant invention become the unexpected results ONLY for ensuring the torch lighter to form a strong and stable group of the torches. Such dimensional limitations cannot be used in other appliances such as the gas burner structure of Lonergan and the multiple coherent jet lance of Anderson et al. Furthermore, JP `434 merely provides a lighter having a single duct to produce a single torch flame, therefore, the dimensional limitations of the instant invention cannot applied on the lighter of JP `434 as well.

14. Practically speaking, the instant invention as claimed in the claims 1-16, 21-24, 35-37 and 39-44 contains structural features different to each of the cited arts. The structural features of the instant invention include:

(a) a nozzle body having a root opening, an emitting opening, and at least an air inlet provided thereon, wherein the air inlet is positioned adjacent to the rooting

opening to **define an elongated mixing chamber axially extended between the air inlet to the emitting opening**, wherein **the mix chamber has a diameter sized between 1mm to 2.5 mm** and a flow of air is capable of inletting into the mixing chamber through the air inlet (as claimed in claim 1)

(b) a **torch nozzle**, which is coaxially connected between the root opening of the nozzle body and the fuel valve, **having a micro nozzle pore having a diameter of 0.05mm to 0.12mm and comprising a mesh filter provided below the nozzle pore for preventing residual particles of the fuel from entering the nozzle body**, **wherein the fuel released from the fuel valve is vaporized into a strong, pressurized gaseous fuel jetting into the mix chamber**, wherein the jetting gaseous fuel and the air flowing through mix chamber are mixed to form a mixture gas at the emitting opening of the nozzle body (as claimed in claim 1);

(c) a **torch head having** at least two elongated **nozzle ducts**, each having an ignition end and a root end **extended and opened into the root chamber**, wherein the root ends of the two nozzle ducts are adjacently positioned to **define a diversion joint edge therebetween** while the two ignition ends of the two nozzle ducts are **diverged and communicated with the ignition chamber** to define a **torch gap** therebetween, wherein a **main portion of the mixture gas** at the emitting opening of the nozzle body **bursts two or more ejecting beams** of the mixture gas at the ignition ends of the nozzle ducts respectively (as claimed in claim 1);

(d) a torch stabilizing arrangement diverging a relatively small portion of the mixture gas at the emitting opening of the nozzle body to **fill up the ignition chamber**, wherein the sparks generated from the piezoelectric tip of the ignition unit **first ignite the relatively small portion** of the mixture gas filled in the ignition chamber to **form a plurality of root flames** which are **united and mixed** to form an ***environment root flame*** **surrounding the torch head and the ignition ends of the nozzle ducts**, wherein **the environment root flame ignites the ejecting beams of the mixture gas burst from the ignition ends of the nozzle ducts to form two or more spaced torches** while the environment root flame **stabilizing and holding the spaced torches** to form a strong and stable group of the torches (as claimed in claim 1);

(e) the air inlet being transversely formed on the root end and having a diameter slightly larger than the diameter of the mix chamber so as to provide a **suction**

force to absorb the air into the mix chamber in such a manner that the mix chamber has a predetermined length and size arranged for the air and the gaseous fuel being evenly mixed to form the mixture gas at the emitting opening of the nozzle body (as claimed in claim 3);

(f) the diversion joint edge between the roots ends of the nozzle ducts being 1.5mm or less (as claimed in claims 7-10);

(g) the torch stabilizing arrangement having **a plurality of** diversion emitting openings formed around the torch head to communicate the root chamber with the ignition chamber, wherein the diversion emitting openings are positioned adjacently below the roots ends of the nozzle ducts (as claimed in claims 11-16);

(h) the **main portion of the mixture gas** flown into the root chamber being ejected through the two nozzle ducts and the **relatively small second portion of the mixture gas** is diverged to emit through the diversion emitting openings and fill up the ignition chamber to be ignited to form the **environment root flame** surrounding the torch head and the root portions of the torches (as claimed in claims 11-16);

(i) each of the diversion emitting openings being a **longitudinal slot** at least evenly spacedly formed around the root chamber of the torch head (as claimed in claims 21-24);

(j) the diameter of the nozzle pore being **0.08mm** (as claimed in claims 35-38);

(k) the torch head being structured as a **gear** (as claimed in claims 39-44); and

(l) a bottom portion of the diversion emitting openings being actually a **layer of space defined by a top surface of the fuel ignition assembly** and a bottom surface of the torch head, whereby the layer of space functions as multiple diversion emitting openings extending from the root ends of the nozzle ducts (as claimed in claims 39-44).

15. Regardless of the structural features different from the cited arts is distinctive or obvious, if the instant invention fails to obtain a patent with claims for limited protection, everybody in this industry (including the applicants of the cited arts) can simply copy the structural features of the instant invention without the need of investing any research and development cost but to compete with the applicant in lower product cost in the applicant's market. It is not only an unfair competition but also violates the spirit of encouraging invention and technology development of the patent law. Therefore, the Examiner is requested to reconsider and withdraw the rejection made against claims 1-16, 21-24, 35-37 and 39-44 of the instant invention with the above mentioned structural features and dimensional limitations in order to obtain the exclusive right for the instant invention to exclude others from making, using, offering for sale, or selling the torch lighter of the instant invention.

The Cited but Non-Applied References

16. The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.

17. In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the objection are requested. Allowance of claims 1-16, 21-24, 35-37 and 39-44 at an early date is solicited.

18. Should the Examiner believe that anything further is needed in order to place the application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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